

From Confrontation to Conservation: The Banff National Park Experience

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Abstract—Banff National Park, the flagship of the Canadian national park system, has become the focus of debate over park use versus protected area conservation. In response to the debate, the Minister of Canadian Heritage commissioned an independent review. The resulting Banff-Bow Valley Study report and Banff National Park Management Plan are landmark documents. The work was a blend of science and public policy review and an innovative approach to public involvement. This paper summarizes the Banff-Bow Valley Study, Parks Canada response and the influence of the overall process on Parks Canada policy and program.

Banff National Park is the flagship of the Canadian national park system. Created in 1885, the Park was born as a “public park and pleasure grounds for the people of Canada” (Lothian 1977). In the early years, the emphasis was on encouraging recreation and tourism development. By 1912, more than 70,000 people visited the Park, compared with four million in 1995. Throughout its history, debate over the management of the Park has focused on the classic struggle of preservation vs development. Throughout the 1980s and early 1990s, the debate escalated to the point that the Minister of Canadian Heritage, responsible for Parks Canada, commissioned an independent review—the Banff Bow Valley Study (BBVS). This paper describes the basic findings of the study and reviews the public involvement process. It also describes in greater detail three major challenges—how science was integrated into decisions, challenges of human use management and regional integration—and how they were dealt with in the BBVS, the park management plan process and in management of the Park over the last few years. It concludes with some of the key lessons learned throughout and since the study.

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Background

Banff National Park is located in the western portion of the province of Alberta, Canada, 100 km (60 miles) west of Calgary and about 400 km (250 miles) north of the Alberta/Montana border. It lies at the heart of the Central Rockies Ecosystem that straddles the Continental Divide. Banff, along with Kootenay, Yoho and Jasper National Parks and several British Columbia provincial parks, forms the Rocky Mountain World Heritage Site.

The Park has three major life zones—alpine, subalpine, and montane. The most critical of these, the montane ecoregion, generally occupies the valley bottoms below the 1,300 metre (4,300 foot) elevation level. It occupies the smallest portion (less than four percent) of the Park and is its most biologically diverse. It provides prime habitat for a wide range of wildlife, including birds, large carnivores, ungulates, small mammals and herptiles. The montane is also the focus of the majority of development and human use in the park.

Banff National Park is an icon of the Canadian national park system. Images of the Park can be found around the world, making it a major tourism destination. This is placing ever-increasing demand on park services and resources. The Park encompasses an area of 6,640 km² and has over four million visitors annually. The number of visitors to the Park has tripled since 1970. To put this in perspective, Banff is about 75% the size of Yellowstone National Park, which had 2.4 million visitors in 1998 (Street 1998).

The Park has an enormous amount of tourism and other infrastructure. There are two communities (Banff and Lake Louise) with almost 10,000 year-round residents. The four-lane Trans-Canada Highway (TCH) bisects the full length of the Bow Valley, as does the Canadian Pacific Railway mainline, the busiest east-west freight line in the country. Beyond the four million visitors to the Park each year, the highway attracts an additional four million people who are passing through on their way to other destinations. Summer use on the TCH averages more than 20,000 vehicles per day.

There are three downhill ski areas, numerous campgrounds, picnic and other day use areas. Popular day use areas, such as Lake Louise, record more than 10,000 people per day. The Park has more than 1,500 km (almost 1,000 miles) of designated trails. These trails attract 18,000 to 20,000 backcountry hikers and horseback rider-nights a year.

Major commercial infrastructure such as the Banff Springs Hotel and the Chateau Lake Louise date back to

the early years of the Park. Many other major hotels and retail developments have followed these early pioneers. The resulting economic engine generates more than \$873 million annually in visitor expenditures and more than 22,000 person years of employment (Alberta Economic Development and Tourism 1994).

The Banff-Bow Valley Study

The struggle between the forces of preservation and development has centered on the Bow Valley since the Park was created. Escalating concerns and opposing perceptions over irreversible damage to the Park and growth in business development and infrastructure that was out of control resulted in the Canadian government commissioning the Banff-Bow Valley Study.

The Minister of Canadian Heritage set three objectives:

- ↑ develop a vision and set of goals for the valley
- ↑ complete a comprehensive analysis of existing and future information needs
- ↑ provide direction for the management of human use and development

A five-member, independent task force carried out the study. A five-person secretariat, together with a large number of scientists, consultants, park staff and other members of the public, assisted the task force. The study took two years to complete and cost \$2.8 million (Canadian). The study resulted in a 430-page technical report, *Banff-Bow Valley: At the Crossroads* (Banff-Bow Valley Study 1996), which contained over 500 recommendations. A summary report, for wider public distribution, was produced. More than 20 other project reports and analyses and a variety of modeling and other analytical tools were developed.

Outcomes—A Case for Change

Shortly following the midpoint of the study, the task force compiled its "Case for Change." These were the major issues that had to be addressed if Banff National Park was to continue to be ecologically sound. The Case for Change became the 14-point framework for the deliberations of the study over the next 16 months and ultimately became the foundation for the development of the study's recommendations.

1. While Parks Canada has had clear and comprehensive legislation and policies, Banff National Park has suffered from inconsistent application of the *National Parks Act* and Parks Canada's Policy. Some of the explanation lies in the evolution of Banff National Park, some in ad hoc decision-making and some in weak political will in the face of a range of interest-based lobbying. The Banff Townsite, for example, would not have been permitted to develop to the extent that it has under the current *National Park Act*. But at the turn of the century, the development of this townsite was viewed as progress. In fact, the administration of the day granted perpetual leases to attract residents and visitor services.

2. Despite the fact that ecological integrity is the primary focus of the present-day *National Parks Act* and Parks Canada's Policy, ecological integrity has been, and continues to be, increasingly compromised. Park management, human use, commercial development, the

Trans-Canada Highway and the railway have contributed to this situation, despite well-intended remedial actions. Regional development, particularly in the previous decade, has and continues to fragment critical habitat and compromise existing wildlife movement corridors beyond the Park boundaries.

3. Multiple converging lines of scientific evidence support the previous conclusion. However, a significant percentage of the population, which has not been exposed to or does not appreciate the significance of the scientific evidence, find it difficult, based on what they had observe, to understand the ecological impacts that have occurred. With green slopes, abundant elk and sheep and sparkling waters, what could possibly be wrong? Perception is and continues to be difficult to overcome.

4. The rates of growth in visitor numbers and development, if allowed to continue, will cause serious, and irreversible, harm to Banff National Park's ecological integrity. The Park has sustained a compounded annual growth in visitation of 5.46% (Pacas 1996). Growth also threatens the Park's cultural resources and its ability to inspire not only artists, but also all Canadians. The built heritage that gives the Town of Banff its cottage atmosphere is fast disappearing under the pressure for new construction. Clearly, stricter limits to growth than those already in place must be imposed.

5. More effective methods of managing and limiting human use are required in both the frontcountry and the backcountry. This will require ongoing adjustments by visitors, residents, the tourism industry, park management and adjacent jurisdictions. While recognizing the need to manage growth in the number of visitors, restricting access should not replace creative visitor management programs that allow more visitors to enjoy the Park, while maintaining ecological integrity.

6. To maintain natural landscapes and processes, disturbances such as fire and flooding must be restored to appropriate levels in Banff National Park.

7. There are existing anomalies in the Park, such as the Trans-Canada Highway, the Canadian Pacific Railway and the Lake Minnewanka dam. For the future of the Park, their continued existence must involve design updates in accordance with the most advanced science and ecological and engineering practices.

8. Tourism in BNP must reflect the values of the Park. The study proposed the refocusing and upgrading of the role of tourism. Towards this end, Dr. Brent Ritchie, the tourism specialist on the task force, developed the Tourism Destination Model. The model described how tourism in Banff National Park should, to a greater extent, reflect the values of the Park and contribute to the achievement of ecological integrity. At the same time, it recognized that there will continue to be many attractive and profitable economic opportunities for sustainable tourism.

9. It is clearly evident that mountain tourism in Alberta will continue to expand. To meet the huge demand, any new, related facilities must be located outside national park boundaries. In coming to this conclusion, the study was sensitive to Banff National Park's place in the regional ecosystem and understood that these developments will affect this ecosystem. The study felt that regional coordination was essential and must start with discussions between senior officials of neighboring federal, provincial and municipal jurisdictions.

10. Current growth in the number of residents, and in the infrastructure they require, is inconsistent with the principles of a national park. At the time of the BBVS, it was important that revisions to the Community Plan for the Town of Banff address these inconsistencies and the need for limits to growth.

11. Public scepticism and lack of trust in the decision-making process has led to a polarization of opinion. New forms of broad-based public involvement, such as shared decision-making, must be utilized, with clear links to Parks Canada's decision-making and accountability processes. Such involvement will have to address national, regional and local interests.

12. Visitors must be better informed about the importance of the Park's natural and cultural heritage, the role of protected areas and the challenges that the Park will face in the third millennium. It is also important for visitors to understand both the value and the cost of ecological integrity, so as to promote feelings of greater personal responsibility and stewardship. Improvements in education, awareness and interpretation programs are required.

13. Improvements to Parks Canada's management are central to the successful future of Banff National Park. Changes are required in the planning processes, management planning and public involvement in decision-making.

14. The current allocation of funding is inadequate to meet the requirements for maintaining ecological integrity and visitor management. The study provided recommendations on developing new and unique sources of revenue to meet the specific needs associated with implementing the recommendations, enhancing and maintaining ecological integrity and meeting the Park's visitor experience goals.

This describes what Parks Canada and the Banff-Bow Valley Study faced in 1995-96.

Sharing Values

Very early in the BBVS, the task force heard from stakeholders that they were frustrated with the conventional approach to public consultation used by Parks Canada and proponents of major developments. Some members of the public did not think that it had any influence over decision-making, that many decisions were made behind closed doors and that there was no predictability to outcomes of decisions. The fact is that Parks Canada had been using a wide variety of techniques to engage the public. No one, however, saw his or her suggestions being completely adopted and therefore felt Parks Canada was not listening. Environmental Non-Government Organizations (ENGOs) felt Parks Canada was too supportive of development, and the business community felt Parks Canada was unnecessarily bureaucratic and negative in its review of development proposals.

There are many different aspects of public involvement. In fact, public involvement processes fall along a continuum (British Columbia Commission on Resources and Environment 1995). At one end are those techniques intended to simply inform constituents. Further along, are methods used to gather information (opinion surveys), consult on reaction (public meetings) and define issues and seek advice (task groups and advisory committees). Finally, one can seek consensus or delegate decision-making authority using joint planning teams and round tables.

The BBVS chose to use a number of different techniques along the entire continuum. Newspaper advertisements were used to inform the public about the study and to identify interested individuals and businesses. Newsletters, reports, public presentations and the Internet were used to deliver information on a regular basis. Public opinion surveys were conducted to gather information. Public meetings were held to hear general concerns. Workshops and one-on-one deputations were used on specific issues. A round table, or shared decision process, was used to find consensus on a vision and significant issues in the valley.

The round table was the most significant public involvement undertaking by the study. It served to bring together, arguably for the first time, all the key interests in the valley. It took 14 months from its initial formation. No other single process had brought the same groups together over such an extended consultation period.

The decision to proceed with the round table was significant. It:

- ↑ was the first round table in interest-based negotiations ever conducted in a national park in Canada
- ↑ clearly demonstrated to the public the task force's commitment to open and inclusive public involvement
- ↑ provided the study with a consistent window on many of the interests in the valley
- ↑ created a clear expectation as to some of the content of the study's final report, since the task force committed to including any consensus agreement from the round table as a recommendation in its final report

To establish the round table, the task force tentatively identified sectors of interest based on its knowledge of the constituents in the valley. It approached opinion leaders to form a sector to sit at the table. Each sector was invited to define its constituency, select a chair and establish a working committee. In the end, 14 sectors of interest, including the task force, were formed. Once the sectors were formed, they appointed an independent mediator who was directly responsible to the table, not to the task force or Parks Canada. The round table then proceeded to develop consensus procedures and retained the right to dismiss the mediator. Each sector tabled a statement of interest. This was the first time that stakeholders in the valley formally shared their interests in a written, accountable form. The round table canvassed the issues it felt were important, prioritized them and set its work plan, taking into consideration the finite timeframe given by the Minister to complete the study. The round table had several limits to its representation. Two first nations sectors withdrew from the round table because their issues were outside the mandate of the BBVS. The government of British Columbia chose not to participate. The government of Alberta participated as an observer only. Most sectors represented local or regional interests, with national representation being limited to ENGOs. Given that Banff National Park is dedicated to the people of Canada, the inability of the task force to reach more national audiences was a significant limitation.

The BBVS round table was somewhat unique. One sector, the task force, found itself in an unusual position, that of a leadership-participant paradox, specifically:

- ↑ The task force was clearly the client of the process—it would receive the recommendations from the round

table and benefit from the debate around issues. The task force agreed to ensure that any recommendation that had the full consensus of the table would be incorporated into the final report. It also agreed to reflect the range of views on issues that did not have consensus.

↑ It was also a participant. The task force agreed from the outset that this was a fully shared decision-making process, meaning the task force had no more or less power at the table than any other sector.

↑ The task force was also expected to play a leadership role to guide the table and continually reinforce the mandate of the task force whenever the discussion became confused.

↑ The task force was expected to be an expert advisor to the table and was regularly asked to make presentations or to identify information on specific issues.

No other sector was expected to play the leadership and participant roles. These are all quite different and potentially conflicting roles. Clearly, one must understand his or her role and the implications before entering into such a process.

One can conclude from the BBVS experience that:

↑ Interest-based negotiation has a role in public policy decision-making.

↑ A round table works best when issues are marked by a long history of user conflicts, and interests realize that the round table is a means to move forward.

↑ The right people are needed: opinion leaders with energy, time, interest and a willingness to represent their constituencies.

↑ An independent mediator is required, accountable to the table and with no real or apparent biases in dealing with the issues.

↑ Public openness is essential.

↑ Time and money must be devoted if one is to benefit from the process. Providing the round table with all of the information needs and support was a highly time-consuming process.

↑ National representation is a challenge for local or regionally based round tables.

Finally, perhaps the most lasting outcome of the BBVS is the increased understanding of the complexity of issues and interests among stakeholders and a cadre of stakeholders experienced in the process of shared decision-making through open, disciplined and civil debate.

Looking Beyond

The recommendations of the BBVS were extensive, and Parks Canada needed to assess its ability to use the recommendations in managing the Park. Once the BBVS report was released, the Minister responded to a variety of recommendations immediately and placed the rest before an implementation advisory committee of internal and external stakeholders to assess their implications and benefits. The balance of this paper reviews how three of the larger issues—the role of science, human use management and regional integration—were dealt with in the Banff National Park Management Plan (Canadian Heritage, Parks Canada 1997) and in subsequent management and stakeholder action.

Role of Science

In this section, the approach by the BBVS, and subsequently by Parks Canada, to the use of science is discussed, with emphasis on how scientific information should be conveyed to assist the public in understanding the environmental issues and the need for action.

As described earlier, Banff National Park's history has been marked by the struggle to balance preservation with human use and development. Because of this history, the study was faced with a complex challenge of how to assess, not only the environmental impacts that have occurred in the valley, but also the social, cultural and economic changes and the factors that caused these changes.

During the two decades prior to the BBVS, the results of biophysical research in and adjacent to the Park were often met with skepticism and, in some cases, strong challenges. As in many public debates, a common tactic was to attack controversial recommendations by questioning the information base for the conclusion - the "my science is better than your science" syndrome. In particular, there was distrust about the significance of the effects of human activities and development on park ecosystems.

Knowing this, the study recognized that it needed to silence the "information debate" if the discussion was to move to defining and resolving issues. To achieve this, it was recognized that a substantial effort would have to be made to communicate scientific information and scientific methods to the public - leveling the playing field of information, so to speak. The following initiatives were used.

↑ Several workshops were held, including a workshop where stakeholders actively participated in the scoping of the environmental and socioeconomic assessment.

↑ The round table was provided with a compendium of baseline information on the park ecosystems, and its social and economic conditions (Pacas and others 1996) and was encouraged to modify and add to it.

↑ Internationally respected ecologists were retained to carry out environmental and socioeconomic assessments.

↑ Presentations were offered to address key information needs.

↑ A Technical Review Committee was established, comprising representatives of many sectors, to actively participate in ongoing analyses.

↑ The round table sectors were asked to nominate specialists for an independent review committee called the Scientific Review Committee.

Several of these initiatives are examined in more detail below.

One of the most substantial initiatives for information dissemination was preparation of the State of the Banff Bow Valley; A Compendium of Information (Pacas and others 1996). A team of specialists assembled a compendium of all known information on the environmental, social and economic systems of the Bow Valley and adjacent region, as well as information on human use, park visitation and history. Considerable effort was made to invite the round table sectors to critique the information and to offer substantiated improvements. Over a period of some 10 months, the round table worked through a number of iterations of the report, the end goal being the acceptance of the report by all sectors.

In the end, the round table concluded that the State of the Valley Report was, "... a significant contribution to providing a source of baseline information. The document is useful in bridging communication gaps, and in developing a common understanding of the area" (Darling 1996).

A second important initiative to involve the public in the use and interpretation of scientific information was the Ecological Outlook Project (EOP) (Green and others 1996). The BBVS commissioned the EOP to develop a sound scientific basis for the development of its management recommendations. Using primarily existing information sources, the EOP attempted to focus social, economic and environmental information on the ecological issues of the valley. The challenge was how to provide this information to the public in a form that was understandable and not overly complex, while not losing key details or the public's ability to challenge the science.

The EOP consisted of two interrelated studies:

↑ The Cumulative Effects Assessment evaluated the changes that had occurred in the Park. The assessment spanned the period from 1950—a period prior to the large expansion in tourism in the Park—through a period of reasonably foreseeable new developments.

↑ The Futures Outlook used dynamic simulation modeling to assess what types of social, economic and environmental changes may occur in the future under several different growth scenarios. In this case, the round table was actively engaged in setting the growth scenarios.

The EOP was completed in a way that facilitated direct involvement of valley constituents in the study and the generation of some of the major environmental recommendations. Mechanisms employed included the scoping workshop previously mentioned and ongoing involvement of representatives from the round table in specific ecological analyses and recommendations. The round table also nominated representatives to a Scientific Review Committee that provided a peer review of the work.

Perhaps one of the key achievements of the round table was development of a vision that provided a strong basis for formulating strategic goals. The strategic goals defined the conditions that the round table wanted to see in the Park and provided a strong basis for future environmental management. An example is the goal set for grizzly bear and wolf conservation:

Maintain healthy...populations within the Banff Bow Valley and Banff National Park as part of a viable and connected population of large carnivores within the Mountain Cordillera of Canada and the United States. The...populations will serve as one of the source populations for the regional ecosystem (Darling 1996).

These may seem like simple words, but they conveyed strong direction to scientists, who in turn were able to develop quantitative objectives and actions that would fulfil these goals.

While data on environmental systems and effects were not complete, they were nonetheless very substantial. As a result of efforts by Parks Canada and other researchers, the study was able to access a wide range of scientific information on aquatic and terrestrial ecosystems and impacts of human use and development.

In contrast, because of limited social and economic research in the Park, only limited information was available on visitor uses and behaviour and on social condition and pressures in the residential communities within and adjacent to the Park. Access to some economic data, particularly those held by private business, was difficult to obtain. In some cases, access to sensitive commercial data was refused. Lastly, few attempts had been made to link ecosystem health and functions with the social and economic health and conditions in park communities. Because of this, it was difficult to demonstrate cause-effect relationships in areas such as the effects of environmental degradation on park visitation and quality of visitor experience.

The timeframe and budget of the BBVS did not permit the conduct of much original research. The study did, however, attempt to address some of the gaps for visitor use, social systems and economic effects. Although there are many statistical databases about park visitors—how many, where they are from, how they traveled, how long they stayed—little is known about what people do when they visit the Park and why they do what they do. Visitor use surveys that were completed by the BBVS included:

↑ A survey of trail users on two of the busiest trails in the Park.

↑ A survey of the recreation and leisure services that were provided by 57 of Banff National Park commercial operators and the degree to which users were satisfied with their experience.

↑ A survey of the tour operators that use the Park, what their customers do in the Park, how they encourage appropriate behaviour and the levels of visitor satisfaction.

A Tourism Outlook project (Coopers and Lybrand Consulting 1995) was also completed to help understand current trends in tourism and to assess how these trends could affect the Banff Bow Valley. Time and funding did not allow the task force to carry out the research needed to define what a quality visitor experience is or should be.

The BBVS also attempted to look well into the future to try to illustrate what could occur if certain management recommendations were or were not adopted. The Futures Outlook Project used dynamic simulation modeling to assess several different scenarios for land use and development (Cornwell and Costanza 1996). The model predicted the effects of different visitation growth rates on indicators such as the quality of life for residents, built infrastructure, linear infrastructure, economic development and several environmental parameters. Based on input from the round table, the growth rates used were -0.5%, 1%, 3% and 6%.

One of the disappointments of the BBVS was that, because of delays in essential input data, particularly economic data, these simulation models could not be used in the round table process or the BBVS to the degree that they should have. These data were available, but were withheld by the owners because they chose not to support the BBVS. Earlier negotiation with the data owners by the task force may have resulted in the data being made available earlier.

Did the study succeed in promoting public understanding of the issues and the need for certain management recommendations? For environmental areas, the answer is yes.

The knowledge level of the stakeholders was greatly increased. They became better able to integrate knowledge from multiple sources of information and therefore gained a greater appreciation of the major environmental issues. With the multiple, converging lines of evidence that were available, it was difficult for most not to accept that significant ecological impacts had and were occurring. The process of information exchange also helped participants to understand how some impacts could be reduced through mitigation, environmental protection and human use management.

The study was less successful in gaining support for some of the recommendations that affected human use and development. Reactions were most extreme from users who were most affected. The study was criticized for making recommendations for restoration of ecological integrity without fully examining social and economic impacts, and without always recommending mitigation for these social impacts. The effects of the socioeconomic data gaps was perhaps most noticeable where the study was not able to convincingly describe linkages between environmental health and the social and economic well being of park residents and businesses.

Keeping science in the forefront of public communications and park decision-making remains a critical aspect of day-to-day management. Problem definition, research and decision-making continue to use focus groups and public forums to define research problems, select objectives and options for review, define implications and communicate decisions. Annual forums report on progress in implementing the Park Management Plan and seek clarification of direction. This more integrated and open process continues to enhance trust and credibility.

Human Use

As outlined in the introduction, Banff National Park has a great complexity of users and activities. The multiple expectations and demand that result make managing use very complicated. Uses include downhill and cross country skiing, hiking and horseback riding, residential communities, park and service businesses, boating, golfing and commercial and private sightseeing.

The Park has two communities—Banff and Lake Louise—that together have almost 10,000 residents and seasonal workers. People who live and work in the Park have the opportunity to use park resources daily, so in essence representing as many as 365 user days per person per year. The Park has a variety of guest facilities, ranging from campgrounds to hotels. Summer overnight capacity is over 41,000 people.

The very high concentration of visitors in the Bow Valley is complicated further by the nature of use in the Park. Unlike many other protected areas, the Park has high use in all seasons. In the past two decades, the total number of downhill skiers has varied from 700,000 to 900,000 annually (Pacas and others 1996). Cross-country skiing and other activities such as wildlife viewing attract visitors throughout the year. This all-season use leaves little opportunity for stressed environments to recover.

Banff National Park straddles the Continental Divide between Alberta and British Columbia. Surrounding land uses include recreation, mining, forestry, oil and gas, ranching, private land, first nations' land, municipal and provincial lands and other protected areas. Another community, Canmore, is located on the east boundary of the Park. Its population in 1996 was 7,623 (BBVS 1996). This combination of human population and resource use results in a broad breadth of land use objectives, expectations, objectives and values. Resolution of fundamental issues, such as maintaining carnivore connectivity and habitat effectiveness is complicated in such heavily used areas. The majority of park visitors are from Alberta, with over half from the nearby city of Calgary. Calgary, with a population nearing 800,000 people, is a key source of park users. Areas adjacent to Banff are administered by a variety of jurisdictions that include federal, provincial, municipal and private lands. This necessitates work and possible solutions at a wide range of scales, from local to international. Both the complexity of these issues and a lack of information have hindered management and decision-making.

The biggest challenge continues to be managing day use. Many of the activities that currently exist predate ecosystem conservation and management concerns. Some, such as the highway, restrict options for controlling use. Research into ecosystem components laid out concerns and biological solutions. The polarized viewpoints on controlling use demonstrated the need to add the human perspective - both to the problem and the solutions.

Human use management must guide people, their numbers and their behaviour, activities and infrastructure needs in a way that supports the ecological and visitor experience goals. While a considerable amount of information was available to assist in defining the ecological parameters, little corresponding information was available on park users and their use patterns. By the early 1990s, Parks Canada had increased its basic demographic information on visitors, however, relatively little effort was spent on documenting how visitors and residents used the park.

Similarly, while modeling of ecological components has advanced substantially, similar tools for modeling human use have not been extensively used or developed in Banff. This was due to an emphasis on investing in ecological research at the expense of developing the Park's social science research program. As the level of park use increases and technology allows farther and faster travel into the Park, it will be essential for the Park to invest in research that will support effective human use management.

The BBVS made substantial recommendations for evaluating human use. It recommended that desired social and environmental conditions should be set at the same time and began the task by establishing an integrated vision for the Bow Valley. Indicators and guidelines for thresholds and targets were proposed. Parks Canada was encouraged to establish zoning that was based more on desired use and less on existing uses.

The Ecological Outlook Project assisted in defining the need for indicators, established a baseline and promoted the need for adaptive management. This work included the development of a human use planning framework.

Parks Canada's Response to the BBVS

Leading up to development and finalizing of the Banff Management Plan, an advisory committee was formed to review the recommendations of the study and to suggest an implementation strategy. Following public review, the Banff National Park Management Plan was finalized, and implementation began.

Human use management was a keystone of the plan. Human uses of all kinds were restricted in some areas of the Park. Development in the sensitive wildlife corridor adjacent to the highway was removed and relocated. For example, an airstrip was closed, a paddock for bison was removed, and the Park's horse corrals were relocated out of the wildlife movement corridor around the Town of Banff. An additional environmentally sensitive area was created to enhance the existing zoning near the east gate of the Park. Human use in this area was limited and will be monitored. Closures of some facilities such as roads and picnic areas were initiated. Pilot areas to develop and test human use management were identified.

The Banff National Park Management Plan committed to using indicators of success and developed many indicators from the work of the study and the round table. The plan then established strategies and targets for a number of the greatest areas of concern. The plan used themes of A Place for Nature, A Place for People, A Place for Community to emphasize the interconnectivity of the components. The plan set goals and objectives, targets and an action plan for accounting for and reporting on the success of these measures.

Specific goals were set for most of the major components, including communities, tourism, transportation and wildlife and people interactions. In particular, the plan acknowledges the value of integrated goal setting and uses the targets established for grizzly bear habitat effectiveness as measures for future success. The management plan divides the Park into five Ecological Management Areas and 27 Carnivore Management Areas (CMUs). CMUs are based on watersheds and represent the size of a home range of a single female grizzly bear. Targets are set for each CMU, based on the potential to improve habitat effectiveness and visitor experience considerations. Research is on going to measure the habitat effectiveness of each CMU and to establish suitable visitor experience goals. The intensity of human use in a few areas of the Park will continue to impair habitat effectiveness.

Residents in national park communities are faced daily with pressures of increased visitor use and balancing their community needs with those of the visitors. Growth management is essential for the quality of the community life, for the visitor experience and for the conservation of the Park's resources. This need is acknowledged by the BBVS, the Banff National Park Management Plan and through subsequent direction of the Minister to limit development in all communities within national parks. This direction is summarized in these four points:

↑ Communities will have their growth and appropriate use defined; community boundaries will be legislated;

capacity for overnight accommodation will be set; and a limit on commercial development will be set.

↑ The principle of "no net negative environmental loss" will be adopted for all communities. Key areas include the identification of environmental stressors, the measurement of their impact on the community and the measurement of their impact on the Park. Baseline measurements must be achieved in the first year of the community plan, and reassessment will be part of the plan review.

↑ Communities must work towards becoming model environmental communities, where issues such as conservation, pollution, noise, lighting, air quality and nonnative species are clearly addressed.

↑ A separate independent panel established by the Minister will develop similar guidelines for development of facilities beyond the community boundaries.

While the BBVS had recommended development of a tourism strategy, the industry representatives had taken their own initiative, prior to the study report, to enhance the industry's understanding of the values of national parks and to ensure industry practices reflected and enhanced this unique protected area experience. This included the development of a code of ethics and industry training in the values and objectives of a national park visitor experience. Because industry developed this initiative, there was a greater sense of ownership and accountability to ensure its success.

The impacts of transportation corridors have been well documented in much of Banff National Park. The emphasis of the work to date has, however, been focused on mitigation of infrastructure impacts. While some restoration work has been conducted along the Trans-Canada Highway, more work is required to reduce and eliminate impacts, develop restoration strategies and begin to utilize transportation as a tool for ecological integrity and visitor experience enhancement. This may include closing some facilities, addressing problems with access and introducing public transit systems.

Clearly, this is just the beginning. Parks Canada must continue to monitor success and adjust its course. The Park conducted its first review of its progress on management plan commitments in the winter of 1998. Adjustments to objectives and action, in particular with regard to human use, resulted from this first public accounting. What is needed is a systematic approach to analyze use and determine what is appropriate both in temporal and spatial terms. The principles from which Parks Canada will work must be defined, including, if necessary, curtailing or eliminating use in some areas of the Park.

Day use will continue to be a challenge. While intervention is most strongly required in Banff, it is a difficult place to learn how to do it. Technology and tools will be required to predict and model solutions. Research will be required on spatial and temporal visitor use patterns, trends in populations and visitors, ecosystem stressors, indicators and social carrying capacity. The BBVS recommended a wide range of options for limiting human use, but it lacked specific data and methods to provide detailed recommendations, outside of limiting human use in areas of prime carnivore habitat. Other options must be evaluated, such as trail and facility relocations and closures, public transportation, social and

ecological carrying capacity, appropriate use and human behavior modifications.

Parks Canada's focus over the past few years has been development and infrastructure issues. This has included limiting overnight accommodation and residential growth and mitigating the impacts of facility construction. Now it must focus on managing dispersed human use, particularly day use and transportation.

Regional Management

Many of the management issues in the Banff Bow Valley must be viewed in a regional or landscape context. The Bow Valley extends from the Rocky Mountains eastward through the foothills and out onto the Alberta prairies. Adjacent land management has a tremendous impact on the Park. Similarly, what happens in the Park has a direct impact on surrounding areas, in terms of tourism, development, housing, commercial accommodation, employment and ecosystems.

Two communities, Banff and Canmore, are very closely linked and have a strong influence on one another. Historically, Canmore, just 8 km east of the park gate, was a mining town and Banff was a tourism destination. Over the past 15 years, this has changed as tourism interest in the area, as a whole, has increased and the mines have closed. Demand for recreational housing by residents of the Calgary area has also stimulated housing development in Canmore. Today, Canmore provides much of the housing for staff working in Banff. More than 800 vehicles per day come through the park gate carrying people who live in Canmore and work in Banff.

Canmore has also seen recent growth in tourism. Over the past decade, there has been a flurry of development as new hotels are built to provide overnight accommodation for visitors to the national park.

Parks Canada has always had a number of coordinating mechanisms for working with managers of provincial lands. Historically, this has tended to be informal and at the working level, rather than at a management level. The relationship tended to be reactive and dealt with specific current issues. For example, Parks Canada actively participated as an intervenor in the public hearings for a huge residential land development in Canmore.

What was badly needed was a more formal and proactive mechanism to deal strategically with the issues that faced the ecoregion and the Bow Valley inside and outside the Park in particular. The BBVS process itself and the recommendations coming out of the study did a great deal to promote regional and ecosystem wide planning. Because the study was a very open and transparent process, the public and the managers of adjacent lands could see that Parks Canada was serious about seeking the input of others. The BBVS opened doors of cooperation that were not open before. It served to overcome the traditional barriers to effective interagency management.

The BBVS recommended that Parks Canada take a lead role in establishing some specific structures to coordinate multi-jurisdictional initiatives at the senior policy level, the strategic level, the science and research level and the technical working level. Parks Canada recognized the need for improvement in these areas but decided that rather than

establishing new structures, it would become more actively involved in structures that existed, were in the process of being established or were being led by other agencies (such as provincial government or nonprofit organizations). The belief was that the involvement of the federal government in local and provincial planning and land use issues would be more readily accepted if the federal government did not assume a lead role. This has proven to be a successful strategy. Three examples illustrate recent progress.

During the BBVS, the province of Alberta established the Bow Corridor Ecosystem Advisory Group (BCEAG) to coordinate some of the issues in the Bow Valley east of the Park. This group is chaired by the province and includes all provincial directors for resource management, as well as political and technical representatives from all of the municipal authorities, including the Town of Banff. Banff National Park is represented on this committee. Over the past two years, the committee has undertaken many significant projects. The level of trust and the willingness to share information and discuss issues openly has increased considerably over this time.

The Town of Canmore is very concerned about development and the impact it is having on the Bow Valley. The Town Council felt that despite environmental assessments and studies, they were not well informed and that individual developers were not making adequate use of existing available information. In some cases, information from one developer was not made available to others, or developers were unaware that certain data existed. The town and others, including Banff National Park, established the Biosphere Institute of the Bow Valley to provide a central, neutral source of information, so that knowledge of the ecosystem and the links with social and economic issues can improve.

The third example, the Central Rockies Ecosystem Interagency Liaison Group (CREILG), was actually formed well in advance of the BBVS, in 1991. It includes representatives from government agencies, including Parks Canada, Alberta and British Columbia. CREILG was formed to examine sustainable management of fish, wildlife, forest, mineral and energy resources, as well as coordinate management of human use of the lands in the various jurisdictions involved.

People want to work cooperatively with those around them. Everyone recognizes the importance of managing land from an ecosystem-based perspective. But to be successful, it is essential to do more than simply invite others to sit on a committee. Something very overt must be done to confirm true interest in working cooperatively. In the case of Banff, the BBVS did that—it opened the doors. The Park has been much more successful at influencing decisions by being part of processes or committees run by others.

Summary

The BBVS and subsequent management actions by Parks Canada underscore the following summary conclusions.

To be successful in building a constituency of understanding, it is important to:

- ↑ Effectively present facts based on credible science to get beyond the perceptions of issues.
- ↑ Define clearly the public involvement objectives and choose the appropriate tools.

- ↑ Understand the interests and values of those involved in the process.
- ↑ Avoid moving into developing solutions to problems until there is a broad understanding and acceptance of the issues.

An effective process is characterized by:

- ↑ Getting the right people early in the process.
- ↑ Building constituent support.
- ↑ Matching the process with the desired outcomes and investing accordingly.
- ↑ Prescribing results rather than solutions.
- ↑ Harnessing the imagination of others to achieve goals
- ↑ Getting involved in the processes of others.
- ↑ Benefiting from a fresh or sober second review of recommendations.
- ↑ Ensuring clear accountability for results.

The challenge of integrating science in the decision process means:

- ↑ Building a constituency behind the information base.
- ↑ Fully explaining social and economic impacts.
- ↑ Communicating scientific information in understandable terms.
- ↑ Recognizing that you often have more information than you think or that information you think you really need is not really important to the development of effective solutions. Don't get blinded by perceived data gaps.

In attempting to manage demand:

- ↑ Recognize that it is often easier to manage up front than to reverse well entrenched use patterns.
- ↑ Watch and understand trends and communicate these to public.
- ↑ Develop management tools in cooperation with public users, to help build public support.
- ↑ Recognize that demand cannot be managed only within the park. Influencing choices early in the visitor planning cycle, altering supply and marketing of alternative opportunities is more effective.

In the BBVS, as in many initiatives, timing is everything. Very often, circumstances, political will, public receptivity and scientific evidence must come together to be effective in making changes.

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